

## STATEMENT OF CONSIDERATIONS

REQUEST BY GOLDEN PHOTON INC. FOR AN ADVANCE WAIVER OF DOMESTIC AND FOREIGN RIGHTS UNDER NREL RFP NO. RI-2-11294 UNDER DOE CONTRACT NO. DE-AC36-83CH10093; W(A)-95-030; CH-0872

Photon Energy, Inc., a Colorado corporation doing business as Golden Photon Inc. (GPI), has requested a waiver of domestic and foreign patent rights for all subject inventions arising from its participation under the above referenced subcontract entitled "Thin Film Photovoltaics Partnership Program." GPI has requested that, in granting the waiver, the same intellectual property provisions which were approved for its previous NREL subcontracts, ZN-0-19019-1 and ZAI-4-11294-03, be included in this waiver. The object of the previous subcontracts was to develop improved materials technology and fabrication processes for production of CdS/CdTe photovoltaic modules.

The object of the subject subcontract is to further improve the fabrication processes and product capabilities for CdTe/CdS thin film photovoltaic modules. The scope of work, as proposed by GPI, includes: (1) investigating specific possible technologies for future generation processing methods; (2) investigating the quantification, characterization and understanding of possible efficiency improvement mechanisms for CdTe/CdS photovoltaic modules; (3) investigating the obtaining of demonstrated life-testing results to support the goal of a 20 year module warranty; and (4) proactively and cooperatively investigate and attempt to address concerns within the photovoltaic industry of the use of cadmium containing semiconductors in thin film photovoltaic devices.

The total anticipated cost of the subcontract, as proposed by GPI, is \$3,865,550, with GPI's share being \$1,932,776, for approximately fifty percent (50%) cost sharing. As proposed, the period of performance would be in three phases over a three year time frame. The continuation of the waiver is contingent upon GPI maintaining, in aggregate, substantially the same cost sharing percentage over the course of the subcontract.

GPI appears to be fully committed to the development and ultimate commercialization of this technology. As brought out in items 5 and 6 of its waiver petition, GPI appears to have assembled and developed a substantial technical base and potential commercial position in the photovoltaic manufacturing process technology. In this regard, GPI currently operates out of its new manufacturing facility in Golden, Colorado, which is designed to produce two megawatts capacity of photovoltaic modules per year. Additionally, as indicated in items 7-9, GPI has invested about \$16 million in developing and pursuing photovoltaic technology, in addition to the \$1.9 million that GPI expects to invest in the subject subcontract. Considering GPI's technical expertise, commercial position and significant investment in this technology including sizable cost sharing in this subcontract, it is reasonable to conclude that GPI will continue to

develop and ultimately commercialize the products which may arise from this subcontract.

As set out in the attached waiver petition, GPI has requested a waiver of DOE's domestic and foreign rights to all inventions conceived or first actually reduced to practice by GPI and its subcontractors, regardless of tier, other than domestic small businesses, universities and nonprofit organizations within the meaning of P.L. 96-517, as amended, in the course of or under the subcontract. The waiver of patent rights to GPI of its subcontractors' inventions will be contingent upon receiving written concurrence from the subcontractors agreeing to this approach. It is believed that this approach will minimize fragmentation of invention rights among the parties as the program progresses, expedite GPI's subcontract negotiations and give GPI a mechanism to obtain meaningful cost sharing or other rights which will facilitate timely commercialization of the technology. In this connection, it should be noted that this also contemplates the parties allocating title or other rights to inventions among themselves as they deem appropriate during the course of their negotiations consistent with the terms of this waiver. In such cases, title may be waived directly to GPI's subcontractor upon mutual agreement of GPI and the subcontractor involved.

GPI has agreed that this waiver shall be subject to the march-in and preference for U.S. industry provisions, as well as the U.S. Government license, comparable to those set out in 35 U.S.C. 202-204. Further, GPI has agreed to the U.S. competitiveness and background patent licensing provisions as attached to this Statement. In brief, GPI has agreed that products embodying any waived invention or produced through the use of any waived invention will be manufactured substantially in the United States until the earlier of five (5) years after submission of a final report or the start-up of a U.S. based manufacturing plant capable of producing photovoltaic modules at an annual capacity of at least ten megawatts, unless GPI can show to the satisfaction of the DOE that it is not commercially feasible to do so. Further, GPI has agreed that it will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements. Also, GPI has agreed to license its background patents and data to third parties on DOE's request if GPI fails to continue development and ultimately build a manufacturing facility in the United States within eight years of executing the subcontract.

Referring to item 10, granting this waiver is not anticipated to have any adverse impact on competition. There are currently a number of companies pursuing a variety of photovoltaic technologies. The success of this technology would be expected to stimulate investment, not only in this particular technology, but in other competing technologies as well.

Considering the foregoing, it is believed that granting this waiver will provide GPI with the necessary incentive to invest its resources in the commercialization of the results of the subcontract in a fashion which will make the subcontract's benefits available to the public in the shortest practicable time. Therefore, upon evaluation of the waiver petition and in view of the objectives and considerations set forth in 41 CFR 9-9.109-6, all of which have been considered, it is recommended that the requested waiver be granted.



Thomas G. Anderson  
Assistant Chief Counsel  
Intellectual Property Law  
Department

Date: 8/29/95



Daniel D. Park  
Patent Attorney  
Intellectual Property Law  
Department

Date: 8/29/95

Based upon the foregoing Statement of Considerations and representations in the attached waiver petition, it is determined that the interests of the United States and the general public will best be served by a waiver of patent rights of the scope described above, and therefore the waiver is granted. This waiver shall not apply to any modification or extension of the subcontract, where through such modification or extension, the purpose, scope or cost of the subcontract has been substantially altered.

CONCURRENCE:



James E. Rannels, Director  
Photovoltaic Technology Division  
EE-131

Date: 2/22/96

APPROVAL:



Paul A. Gottlieb  
Assistant General Counsel  
for Technology Transfer  
and Intellectual Property, HQ

Date: 2-23-96

## ADVANCE WAIVER PATENT RIGHTS

The Advance Waiver Patent Rights clause is amended as follows:

### (c) (3) (ix) U.S. Competitiveness

The Contractor agrees that products, processes or services, relating to photovoltaic manufacturing process technology, used or sold by it or its affiliates embodying subject inventions will be manufactured, practiced or provided substantially in the United States until the earlier of five (5) years after submission by Contractor of the final report as required under paragraph (e) (2) of this clause or start-up by the Contractor (alone or in association with others) of a U.S. based manufacturing plant having an annual capacity to produce photovoltaic modules with a total rated modular capacity of at least ten megawatts, unless the Contractor can show to the satisfaction of the Contracting Officer that it is not commercially feasible to do so. In the event the Contracting Officer agrees to foreign manufacture in exception to the foregoing, there will be a requirement that the Government's support of the area of technology which was the subject of this waiver petition be recognized in some appropriate manner, e.g., recoupment of the Government's investment, etc. The Contractor agrees that it will not license, assign or otherwise transfer any waived invention to any entity unless that entity agrees to these same requirements.

### (k) Background Patents

- (1) "Background Patent" means a domestic patent covering an invention or discovery which is not a Subject Invention and which is owned or controlled by the Contractor at any time through the completion of this contract:
  - (i) Which the Contractor, but not the Government, has the right to license to others without obligation to pay royalties thereon, and
  - (ii) Infringement of which cannot reasonably be avoided upon the practice of any specific process, method, machine, manufacture or composition of matter (including relatively minor modifications thereof) which is a subject of the research, development, or demonstration work performed under this contract.
- (2) The Contractor agrees to and does hereby grant to the Government a royalty-free, nonexclusive license under any Background Patent for purposes of practicing a subject of this contract by or for the Government in research,

WAIVER ACTION - ABSTRACT

W(A)-95-030

<u>REQUESTER</u>	<u>SUBCONTRACT SCOPE OF WORK</u>	<u>RATIONAL FOR DECISION</u>	<u>DISPOSITION</u>
Golden Photon, Inc.	Improving the fabrication processes and product capabilities for CdTe/CdS thin film photovoltaic modules	50% cost sharing	Recommended